

such examination his fee shall not be refundable unless he has been excused from such obligation 10 days prior to such examination or unless he submits to the board ample proof that he was unable to be present. Such proof must be in the office of the board at least 2 months before a future examination which he may desire to take if his former fee is to be considered for use in connection with such examination.

(3) **RETAKES.** An applicant who upon taking any portion of the board's architectural, engineering, or land surveying examinations for the first time fails a portion or all of that examination may upon request and payment of the re-examination fee retake all of it, or the portions of it failed, at any 3 of the 6 semi-annual examinations next following the first examination written. If the applicant fails to complete passing the entire examination during any 3 of the 6 semi-annual examinations next following the first examination written, the applicant shall:

(a) Be ineligible to take further examinations for a period of at least 2 years,

(b) Revert to the status of a new applicant and be required to take all portions of the examination unless otherwise approved in advance by the board,

(c) Be required to furnish proof that since his last failure he has further prepared himself by educational work or practical experience before being admitted to additional examinations.

(4) **EXAMINATIONS FOR ARCHITECTS.** (a) *Examination required.* The objective of the board is to conduct its examinations for registration as an architect in the manner prescribed by the national council of architectural registration boards. This procedure is of considerable value to one registered on the basis of having passed such an examination if, at some future date, he might find it necessary to obtain reciprocal registration as an architect in another state.

(b) *Place of examinations.* The examinations will be held at sites designated by the board.

(c) *Time of examinations.* To be arranged.

(d) *Scope of examinations.* Examinations will be both oral and written and the final grade will include a rating based on the applicants architectural training and practical experience. A personal audience before members of the board constitutes the oral portion of the examination. The written portion of the examination covers structural design and materials, graphic statics and truss design, selection and use of materials, mechanical equipment of buildings, counselling and administration, supervision, history of architecture, architectural composition and architectural design. Detailed information regarding examinations will be made available upon request to the board's office.

(5) **EXAMINATIONS FOR ENGINEER-IN-TRAINING AND PROFESSIONAL ENGINEER.** (a) *Examinations required.* 1. For certification as engineer-in-training—Exam A, parts I and II. Each part 4 hours in length. Total 1 day (8 hours).

2. For registration as professional engineer. a. If certified as engineer-in-training—Exam B, parts I and II. Each part 4 hours in length. Total 1 day (8 hours).

b. If not certified as engineer-in-training—Exam A, parts I and II and Exam B, parts I and II. Each part 4 hours in length. Total 2 days (16 hours).

(b) *Place of examinations.* 1. Engineer-in-training. a. Madison, Wisconsin. b. Milwaukee, Wisconsin.

2. Professional engineer. a. Madison, Wisconsin.

(c) *Time of examinations.* To be arranged. (About first part of February and middle of June). The examinations given in Madison and Milwaukee shall be given at the same time.

(d) *Type of examination.* 1. Identical examinations will be given at the same time when given at more than one place.

2. Oral examinations will be at the discretion of the engineering division.

(e) *Grading of written examinations, passing grades and retakes.*

1. Experience ratings will not be weighed as a part of the examinations.

2. On each examination A or B a successful applicant must average at least 70%. He must not fall below 60% in part I or part II of either examination.

3. If an applicant fails in parts I or II of examination A or B, he may at the discretion of the board be not required to retake the parts he has passed, or he may be required to retake the entire examinations.

(f) *Scope of written examinations.* 1. Examination A. Part I—This portion requires a knowledge of physics, chemistry, mechanics, and materials of construction such as could be acquired from courses which are a part of an accredited engineering curriculum.

Part II—This portion requires a knowledge of the fundamentals of engineering and of the particular field pursued by the applicant such as could be acquired from courses in electrical circuits and machinery, hydraulics, thermo-dynamics, structures, and machine design which are a part of an accredited engineering curriculum.

2. Examination B. Part I—This portion is in a general engineering field selected by the applicant from a listing specified by the engineering division such as chemical, civil, electrical, mechanical, mining, metallurgical, etc. A separate examination will be offered for each general field.

Part II—Specialty. This portion is in a sub-field selected by the applicant from a listing specified by the engineering division. Questions involving engineering economics, ethics, and law may be included. The applicant may be required to prepare an engineering report from a list of assigned topics.

(6) EXAMINATIONS FOR LAND SURVEYOR. (a) *Examinations required.* Parts I and II. Each part 4 hours in length. Total 1 day (8 hours).

1. The applicant shall be required to pass the 8-hour written examination.

2. Oral examinations will be at the discretion of the engineering division.

(b) *Place of examinations.* Madison, Wisconsin.

(c) *Time of examinations.* Exact time and date to be arranged. (Normally held latter part of the month in July and December).

(d) *Grading of written examinations; passing grades.* 1. Experience ratings will not be weighed as a part of the examinations.

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2. The applicant must not fall below 60% in part I and part II, and must average at least 70% in a combination of part I and part II.

3. If an applicant fails in parts I or II of the examination he may at the discretion of the board be not required to retake the parts he has passed, or he may be required to retake the entire examinations.

(e) *Scope of written examinations.* Parts I and II will be made up of questions covering some phases of the following subjects:

1. Fundamentals of mathematics, algebra, trigonometry and geometry; the history, principles and applications of the U. S. System of Public Land Surveys, Wisconsin plane coordinate surveys, and geodetic surveys; the instructions of the U. S. Land Office relative to the relocation of lost and obliterated corners and the subdivision of sections; the legal essentials of resurveys, including those involving disputed boundaries, defective deed descriptions, riparian rights, adverse possessions, etc.; Wisconsin Statutes relative to land surveying, including the preparation and filing of plats; the writing and interpretations of land descriptions; the technical essentials of land surveying and subdivision of lands, including practical problems requiring a knowledge of the basic theory and fundamental concepts in field astronomy, geometry of curves, topography and photogrammetry.

History: 1-2-56; r. and recr. (3); am. (5) (e) 3., Register, February, 1961, No. 62, eff. 3-1-61; cr. (6), Register, August, 1965, No. 116, eff. 11-1-65.